

MATH 211 L02.
M.W.F. 11:00 in A 140
Winter 2011

Instructor: Jędrzej Śniatycki, MS 320. Office hours: M. 13:00, W. 10:00 (**by appointment only**).

Text: Keith Nicholson, Elementary Linear Algebra, McGraw-Hill, Second Edition.

Webwork: 10 webwork homework assignments. Each webwork assignment counts for 1% of the final grade.

Quizzes: There will be 3 quizzes given in labs. Duration: 50 min. Each quiz counts for 8% of the final grade.

Midterm (50 min) in class on Monday, March 21. Credit: 16%.

Final Exam (3 hours) scheduled by the Registrar. Credit: 50%

Detailed Lecture Schedule

Week	Material	Topics	Comments
Jan 10-14	1.2.1-1.2.3	Linear equations	
Jan. 17-21	1.2.4, 1.3	Rank, Homogeneous systems	
Jan. 24-28	1.1, 1.4.1-1.5.1	Matrix algebra and inverses	
Jan. 31-Feb. 4	1.5.2-1.6.1.	Inverses / elementary matrices	Quiz 1: Sec. 1.1-1.3
Feb. 7-11	2.1.1-2.2.3	Determinants	
Feb.14-18	2.3.2	Eigenvectors	
Feb. 21-25	-	-	Reading Weak, no classes
Feb. 28-Mar. 4	2.3.3	Diagonalization	Quiz 2: Sec. 1.4-2.3.2
Mar. 7-11	2.5.1-2.5.3	Complex numbers	
Mar. 14-18	2.5.4-2.5.6	Complex numbers	
Mar. 21-25	3.1-3.2	Geometric vectors, dot product	Midterm Mar. 21 Sec. 1.1-2.3.3
Mar. 28-Apr.1	3.2-3.3.3	Lines and planes	
Apr. 4-8	3.3.4- 3.4.3	Cross product / Transformations	Quiz 3: Sec. 2.5.1-2.5.6
Apr. 11-15	3.4.4-3.4.5	Transformations	
Apr. 18-29	-	-	Final Exams

- **Homework.** Students are expected to prepare themselves to lectures by reading **before** each lecture the section of the text to be covered in the lecture. After the lecture, students should read the appropriate section in the text and do problems in this section.
- **Lectures** are complementary to homework. They will be used to explain new ideas and techniques of solving problems given in the text. Students are responsible for all material in the sections of the text listed above.
- **Labs** If a quiz is not scheduled, Instructors will discuss problems from the sections to be covered in the lab and answer student's questions. Otherwise, Instructors will administer the quiz. Marked quiz will be returned during the following lab.
- **Problems.** Students are expected to attempt all problems in the sections of the text covered in the course (see the Calendar of Lectures above). At least half of the problems on the Final Exam will be taken from the text, except for a change of numerical data.
- **Continuous Tutorials** in MS. 569. M.W. 13:00-15:00 and T. R. 12:00-16:00. It is a drop-in tutorial service starting on Monday, January 19. No registration or appointment necessary. Please use it if you have any question about the material or problems in the text.

Detailed Lab Schedule:

Jan. 10-14 No labs.

Janu. 17-21 Detailed discussion of Sec. **1.2.4**. In particular equation (**). Section **1.2** Exercises # 9 c and d.

Jan. 24-28 Sec. **1.2.3 - 1.3**. Detailed discussion of Gaussian algorithm. Sec **1.2.3** Example 9, 11, Sec **1.2**. Exercises # 3 and 4. Sec. 1.3 Example 3

Jan. 31-Feb. 4 Quiz 1: Sec. 1.1 - 1.3. Marked quizzes are to be returned to the students during the next lab.

Feb. 7-11 Sec. **1.4** Examples 2, 3 and 11. Sec. **1.5** Examples 8 and 9.

Feb. 14-18 Sec. **2.1** Examples 1, and 4. Sec. **2.2** Examples 2, 3, 5, 7 and 8.

Feb. 21-25 Reading Weak, no classes.

Mar. 2-6 Sec. **2.2** Examples 3 and 9. Sec. **2.3** Examples 2, 3 and 4.

Feb. 28-Mar. 4 Sec. **2.3** Examples 5, 6 and 7.

Mar. 7-11 Quiz 2: Sec. 1.4 - 2.3. Marked quizzes are to be returned to the students during the next lab.

Mar. 14-18 Sec. **2.5**. Examples 1, 2, 3, 4, 5 and 6.

Mar. 21-25 Sec. **2.5**. Examples 7, 8, 9, 10 and 11.

Mar. 28-Apr 1 Quiz 3: Sec 2.5.1-2.5.6. Marked quizzes are to be returned to the students during the next lab.

Apr. 4-7 Sec. **3.1** Examples 1, 5, 7. Sec. **3.2** Examples 3, 4, 8. Sec. **3.3** Examples 2, 4, 5, 7, 11.

Apr. 11-15 Sec. **3.4** Examples 4, 5, 6, 8, 9, 10.

Webwork Assignments.

#	Assignment Name	Open	Due
1	Gaussian Elimination	Monday, Jan. 10	Sunday, Jan. 30.
2	Matrix Multiplication	Monday, Jan. 24	Sunday, Feb. 6.
3	Matrix Inversion	Monday, Jan. 31	Sunday, Feb. 13.
4	Elementary Matrices	Monday, Feb. 7	Sunday, Feb. 20.
5	Determinants	Monday, Feb. 7	Sunday, Feb. 27
6	Diagonalization	Monday, Feb. 14	Sunday, Mar. 13
7	Complex Numbers	Monday, Mar. 7	Sunday, Mar. 27
8	Vectors and Lines	Monday, Mar. 21	Sunday, Apr. 10.
9	Lines and Planes	Monday, Mar. 28	Sunday, Apr. 17.
10	Transformations	Monday, Apr. 4	Sunday, Apr. 17.